S.I.E.V.E.

Statistical Interactive Explorer of Vaccine Efficacy

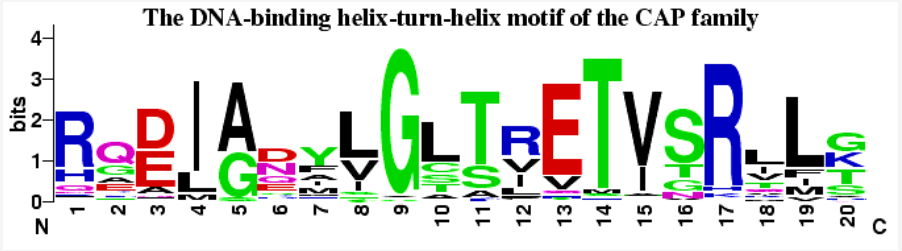
KULLMAN, CLENAGHAN + WANG

SIEVE ANALYSIS

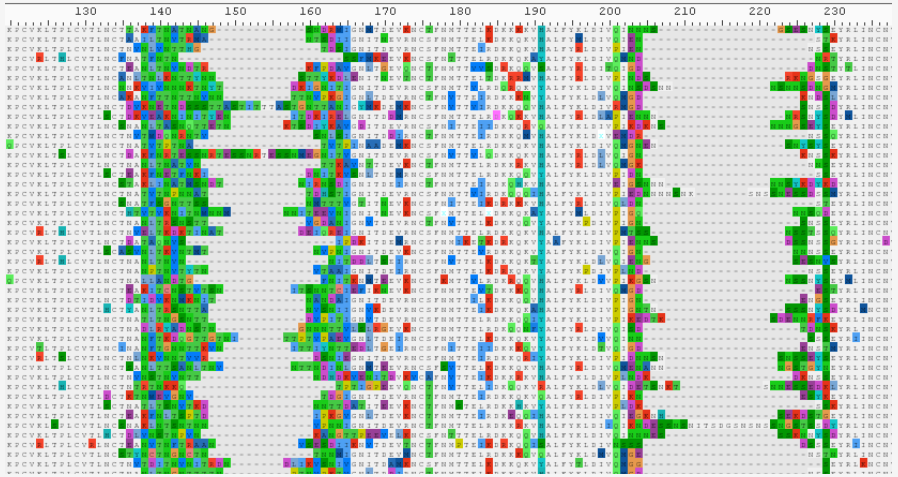
- Vaccines as a whole are ineffective for HIV.
- However, new techniques show they can be effective on certain strains
    - Which ones???
- Sieve analysis studies the similarities of the genomes the HIV in patients to the vaccine administered.
- OUR TASK: create an interactive visualization to aid in exploring this data.
- Working with Andrew Gartland and Allan DeCamp at Fred Hutch

PRIOR WORK

GENERAL SEQUENCE VIEWERS

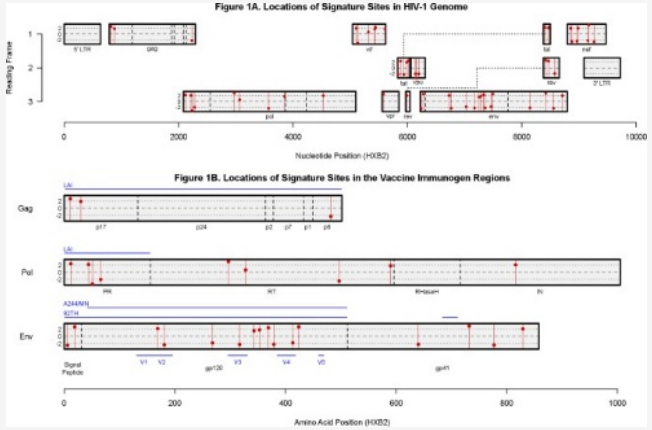


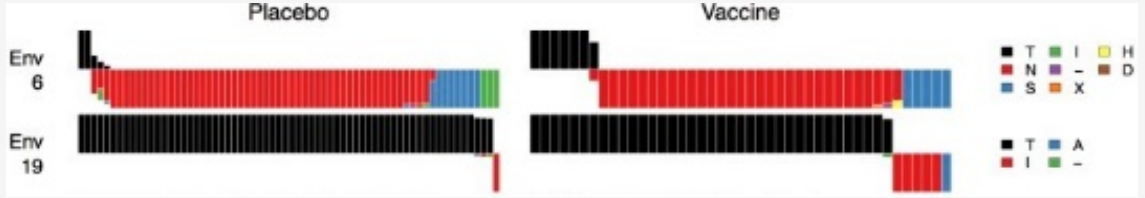
WebLogo



Alignment Viewers

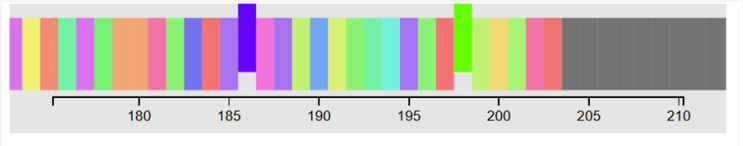
SIEVE ANALYSIS GRAPHICS



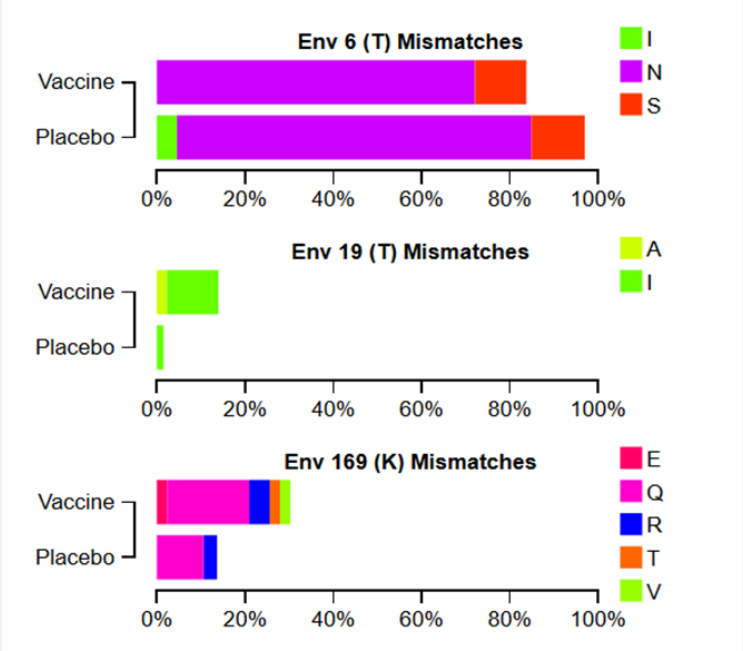


S.I.E.V.E.: THREE PARTS SO FAR

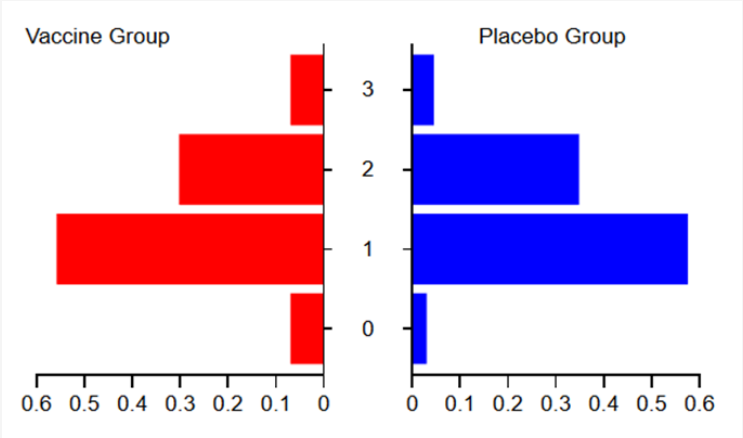
OVERVIEW GRAPHIC / SITE SELECTION



INDIVIDUAL SITE CHARTS



GROUP STATISTICS



WORKS IN PROGRESS

- Better selection
- More statistics shown: visually encode statistically interesting sites to view
- Allow researchers to upload their own data for other vaccine studies
- Implement customization of colors, annotation of graphics, and export of images for use in sieve analysis papers

FEEDBACK SOLICITATION

What selection mechanism would work best for this type of data?

- Data is in a very long sequence, but researchers need fine grained control
- Ideally easily select multiple disconnected sequences across the genome, with ability to quickly select sequences of a specified length

Best way to export a D3 graphic to PDF format for inclusion in papers?

- SVG is inconvenient for the researchers